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Platelet cholesteric multilayer pigments for use in effect lacquers -  
comprising light-absorbing pigment between two cholesteric layers  
(G1e)

C99-049418

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#### NOVELTY

A platelet-form cholesteric multilayer pigment has layers  $A^1/B/A^2$   
where  $A^1$  and  $A^2$  are cholesteric layers and B is an intermediate layer  
partially or wholly absorbing the light transmitted by  $A^1$  and  $A^2$ .

An INDEPENDENT CLAIM relates to the preparation of the  
pigment by depositing the layers simultaneously or sequentially on a  
carrier, hardening them, removing the carrier and pulverising the  
layers.

#### USE

cooling below the  $T_c$ .  $A^1$  and  $A^2$  can have the same or different optical  
properties (eg wavelength reflection) and the thickness of each is 0.5-  
20 (especially 2-4)  $\mu\text{m}$ .  $A^1$  and  $A^2$  are typically based on liquid crystal  
monomers such as those of DE19602848 or are polycarbonates,  
polyesters or copolyisocyanates.

Intermediate layer (B) is 0.5-5 (especially 0.5-2.5)  $\mu\text{m}$  thick and  
the multilayer pigment has a diameter of 5-500 (especially 10-30)  $\mu\text{m}$ ,  
while pigment (B) is an (inorganic, preferably black and/or magnetic,  
absorption pigment, optionally in a binder. Manufacture of the  
pigment involves deposition of the layers on a carrier by (air) doctor-,  
air knife-, squeeze-, impregnation-, roller-, gravure-, kiss-, cast-, spray-  
or spin-coating or by printing such as relief-, intaglio-, flexo- or  
offset-printing, especially by cast-coating or offset printing.

#### EXAMPLE

None given. (RB)  
(30pp1958DwgNo.0/0)

A01-A2, 12-D5B, 12-W7D, D08-B, B3-F17, G12-A3A,  
2-A4B

The pigments are used as effect lacquers or inks and/or are used  
on vehicles, leisure or sports goods, in optical elements such as  
polarisers or filters, in cosmetics, textiles, leather or jewelry, in gifts,  
writing implements or spectacles, in building or in domestic or printed  
goods. They can also be used in forgery-proofing or security-marking  
of articles.

#### ADVANTAGE

Effect pigments are provided which do not suffer from the defects  
of prior art pigments such as poor coverage; they do not require  
additional pigments in the cholesteric matrix nor a coloured  
background to show good absorption properties.

#### POLYMERS

Layers  $A^1$  and  $A^2$  comprise in the hardened state (a) a cholesteric  
polymerisable monomer; (b) an achiral, nematic polymerisable  
monomer and a chiral compound; (c) a cholesteric, crosslinkable  
polymer; or (d) a cholesteric polymer in a polymerisable diluent, (e) a  
cholesteric polymer whose cholesteric phase can be frozen by rapid

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